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09/884,523	06/18/2001	Michael G. Coutts	7603.01	3099

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EXAMINER
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DENNISON, JERRY B

ART UNIT	PAPER NUMBER
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2143

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 09/884,523	Applicant(s) COUTTS ET AL.	
	Examiner J. Bret Dennison	Art Unit 2143	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**RESPONSE TO AMENDMENT**

1. This Action is in response to Amendment for Application Number 09/884,523 received on 26 September 2006.
2. Claims 20-40 are presented for examination.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Vachon (U.S. 5,274,795).

3. Regarding claim 20, Vachon disclosed a self-service terminal comprising a plurality of peripheral devices (Vachon, col. 2, lines 28-30) connected to a central processor and controlled by that central processor (Vachon, col. 2, lines 63-66), each of the peripheral devices having an independent associated control application for controlling the peripheral, the independent associated control applications being operable to communicate with each other independent of the central processor, whereby, in use, each peripheral device operates in response to signals generated by the central processor as well as all other peripheral devices whose operation depends

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on or is connected with the state of that peripheral device (Vachon, col. 1, lines 55-60, col. 2, lines 57-61, Vachon disclosed the peripheral device being able to communicate with each other independent of the central processor through the use of DMA through a bus).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20, 21, 23, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward (U.S. Patent Number 4,636,947) in view of Vachon (U.S. 5,274,795).

4. Regarding claim 20, Ward disclosed, a self-service terminal comprising a plurality of peripheral devices connected to a central processor and controlled by that central processor, each of the peripheral devices having an independent associated control application, the independent associated control applications being operable to communicate with each other, whereby, in use, each peripheral device operates in response to signals generated by the central processor as well as all other peripheral devices whose operation depends on or is connected with the state of that peripheral device (Ward, col. 2, lines 35-60 and Fig. 2, Ward teaches a terminal in a network

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where each of the peripheral devices include a subsystem controller and memory for parallel transaction event processing among other devices, Ward teaches the protocol handler tasks for controlling data formatting and timing between devices communicating in an on-line network. In order for an ATM to properly operate, the peripherals function in a ordered sequence and therefore they do operate in response to signals generated by the peripheral devices whose operation comes beforehand in the sequence).

However, Ward did not explicitly state the independent associated control applications being operable to communicate with each other independent of the central processor.

In an analogous art, Vachon disclosed peripheral devices being able to communicate with each other independent of the central processor through the use of DMA through a peripheral bus (Vachon, col. 1, lines 55-60, col. 2, lines 57-61).

Ward disclosed a data acquisition system in which multiple peripherals devices are used in transaction processing for an ATM. Vachon disclosed a data acquisition system that allows the peripherals devices to communicate with each other without the use of the central processor (Vachon, col. 1, lines 55-60).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate the peripheral bus of Vachon into Ward to provide a set of concurrently executing program modules communicating through streams of data (Vachon, col. 1, lines 60-65) and in order to decrease the cost in terms of processor time for the processor to acquire data from the peripheral hardware (Vachon, col. 1, lines 20-28).

5. Regarding claim 21, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20, including wherein the independent associated control applications communicate with each other using a peer-to-peer communication protocol (Ward, col. 3, lines 20-25, Fig. 2).

6. Regarding claim 23, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20, including wherein the independent associated control applications communicate with each other using signals addressed directly to selected peripheral devices so that a peripheral device only communicates with those peripheral devices whose operation depends on or is connected with the state of that peripheral device (Ward, col. 3, lines 40-60, col. 4, lines 1-10, 30-35, Ward disclosed that the peripherals operate in a transaction sequence, meaning that a peripheral device operates according to the operation of peripheral devices that operate before it).

7. Regarding claim 34, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20, including wherein, in use, each of the independent associated control applications are executed on a single central processor (Ward, col. 3, lines 20-26).

8. Regarding claim 36, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20, including wherein the peripheral devices are selected

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from the following peripheral devices: user interface, card reader, receipt printer, cash dispenser, and a bar code scanner (Ward, Fig. 2, 96).

9. Claims 22, 24-33, 35 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward and Vachon and further in view of Kraslavsky et al. (U.S. Patent Number 5,537,626).

10. Regarding claim 22, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein the independent associated control applications communicate with each other using broadcast signals in order to communicate a present state of the peripheral devices. Kraslavsky disclosed communication links that enable peripheral devices of a terminal to communicate with each other through broadcasting (Kraslavsky, col. 14, lines 5-22). It would have been obvious to one in the ordinary skill in the art at the time of the invention to incorporate the communication links of Kraslavsky into Ward and Vachon in order to enable the peripheral devices of a terminal to communicate with one another, eliminating the need to use the Peripheral Control Unit.

11. Regarding claim 24, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein an independent associated control application that operates in response to a signal communicated from another peripheral device acknowledges receipt of that signal. Kraslavsky disclosed

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peripheral devices responding to broadcast signals (Kraslavsky, col. 14, lines 5-15).

See motivation above.

12. Regarding claim 25, Ward and Vachon disclosed disclosed the limitations, substantially as claimed, as described in claim 20, including wherein each independent associated control application is operable to identify any failed peripheral device that does not acknowledge receipt of a signal, and to communicate the functional state of that failed peripheral device to other independent associated control applications (Kraslavsky, col. 14, lines 5-15). See motivation above.

13. Regarding claim 26, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein each peripheral device uses a registry for maintaining a record of the functioning peripheral devices in the terminal. Kraslavsky disclosed keeping statistics and a log of the devices (Kraslavsky, col. 14, lines 5-15). See motivation above.

14. Regarding claim 27, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein the independent associated control applications implement a team building process for indicating their availability. Kraslavsky disclosed peripheral devices indicating availability (Kraslavsky, col. 14, lines 5-15). See motivation above.



15. Regarding claim 28, Ward, Vachon and Kraslavsky disclosed the limitations, substantially as claimed, as described in claim 27, including wherein as part of the team building process, each independent associated control application associated with an available peripheral device transmits a start-up signal (Kraslavsky, col. 14, lines 5-15).

See motivation above.

16. Regarding claim 29, Ward, Vachon and Kraslavsky disclosed the limitations, substantially as claimed, as described in claim 28, including wherein the start-up signal includes an identifier for the peripheral device being initialized and an address at which the peripheral device receives signals (Kraslavsky, col. 14, lines 5-15). See motivation above.

17. Regarding claim 30, Ward, Vachon and Kraslavsky disclosed the limitations, substantially as claimed, as described in claim 29, including wherein the start-up signal is broadcast to other peripheral devices (Kraslavsky, col. 14, lines 5-15). See motivation above.

18. Regarding claim 31, Ward, Vachon and Kraslavsky disclosed the limitations, substantially as claimed, as described in claim 30, including wherein the start-up signal is communicated directly to predetermined addresses that correspond to other peripheral devices (Kraslavsky, col. 14, lines 5-15, col. 17, lines 30-45). See motivation above.

19. Regarding claim 32, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein the independent associated control application associated with each peripheral devices creates a functional group registry comprising the addresses and identity of each peripheral device that has sent a startup signal. Kraslavsky disclosed logging device information from startup signals received (Kraslavsky, col. 14, lines 5-15). See motivation above.

20. Regarding claim 33, Ward, Vachon and Kraslavsky disclosed the limitations, substantially as claimed, as described in claim 32, including wherein each independent associated control application transmits a shut-down signal when its peripheral device is no longer able to operate properly; each independent associated control application being operable to modify its functional group registry in response to a shut-down signal from another peripheral device to indicate the removal of that peripheral device from operation (Kraslavsky, col. 14, lines 5-15, 30-45).

21. Regarding claim 35, Ward and Vachon disclosed the limitations, substantially as claimed, as described in claim 20. Ward did not explicitly state wherein, in use, each of the independent associated control applications is executed on a processor within its associated peripheral. Kraslavsky disclosed a printer containing its own processor and running applications (Kraslavsky, col. 14, lines 5-45).

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22. Claims 37-40 include limitations similar to the limitations found in claims 20-36, and are therefore rejected under the same art as claims 20-36 as being substantially similar.

### ***Response to Amendment***

Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *by incorporating new limitations into the independent claims, which will require further search and consideration*) to the claims which significantly affected the scope thereof.

#### **Claim Interpretation**

Claim 20 recites the clause, "whereby, in use, each peripheral device operates in response to signals generated by the central processor as well as all other peripheral devices whose operation depends on or is connected with the state of that peripheral device."

Claim 37 recites the clause, "so that each peripheral device operates in response to one or more signals generated by the central processor as well as the independent

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associated control applications of all other peripheral devices whose operation depends on or is connected with the state of that peripheral device.”

Any language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. **See MPEP 2106, section II, subsection C** for specific examples. This section of MPEP explicitly states that statements of **intended use** do not limit a claim to a particular structure and do not limit the scope of the claim or claim limitation.

**Examiner suggests amending the claims to remove the terms “whereby, in use” and such that”, to remove the optional outcome/intended use.**

Applicant’s arguments with respect to claims 20-40 are deemed moot in view of the following new grounds of rejection, necessitated by Applicant’s amendment to the claims, which significantly affected the scope thereof.

Applicant argues, the peripheral devices “do not operate in response to signals generated by all other peripheral devices.” Applicant also argues, “Vachon does not teach or suggest that each of the peripheral devices has an independent associated control application that communicates directly with each other independent of the central processor [See Applicant’s Arguments, pages 11-12].

Examiner respectfully disagrees.

Vachon suggests, "Transfer of data by peripheral devices via DMA without processor intervention, however, is especially suitable for computerized data acquisition applications" (Vachon, col. 1, lines 55-60).

Vachon explicitly disclosed, "The interfacing device is also capable of transferring data between devices located on the peripheral bus as well as performing control functions for those devices requiring processor intervention" (Vachon, col. 2, lines 37-41). This clearly shows peripheral devices being able to communicate with each other, with AND without processor intervention.

In amending the claims, Examiner suggests review of the presently cited prior art, IBM Technical Disclosure, with attention to pages 339-340 which shows Figures of peripheral devices communicating without processor intervention.

Furthermore, as it is Applicant's right to continue to claim as broadly as possible their invention, it is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. It is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art.

Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response and reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Examiner made changes to inadvertent typos in the preambles of the rejections above, without changing the grounds of rejection. It was clear from the rejections (i.e. format of the 102 and 103 rejections) as well as from the 35 USC 102 and 35 USC 103 headings as to which claims were rejected under 35 USC 102 and 35 USC 103. Applicant's proper response, which shows that Applicant clearly recognized the inadvertent typos, in addition to the amendments made to the independent claims make the finality of this rejection proper.

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part

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of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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